

TOSHIBA Diodes for Protecting against ESD Epitaxial Planar Type

DF2S12FS

Product for Use Only as Protection against Electrostatic Discharge (ESD).

* This product is for protection against electrostatic discharge (ESD) only and is not intended for any other usage, including without limitation, the constant voltage diode application.

- 2terminal ultra small package suitable for mounting on small space.

Absolute Maximum Ratings (Ta = 25°C)

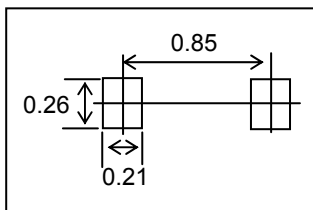
Characteristic	Symbol	Rating	Unit
Power dissipation	P*	150	mW
Junction temperature	T _j	150	°C
Storage temperature range	T _{stg}	-55~150	°C

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

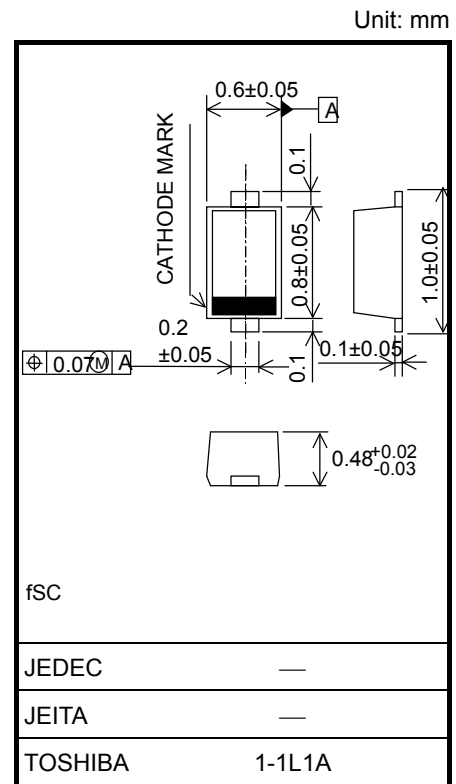
*: Mounted on a glass-epoxy circuit board of 20 × 20 mm, pad dimensions of 4 × 4 mm

Pad Dimension(Reference)Unit: mm



Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Zener voltage	V _Z	—	I _Z = 5 mA	11.4	12.0	12.6	V
Dynamic impedance	Z _Z	—	I _Z = 5 mA	—	—	25	Ω
Reverse current	I _R	—	V _R = 9 V	—	—	0.05	μA
Total capacitance	C _T	—	V _R = 0 V, f = 1 MHz	—	15	—	pF



Weight: 0.0006 g (typ.)

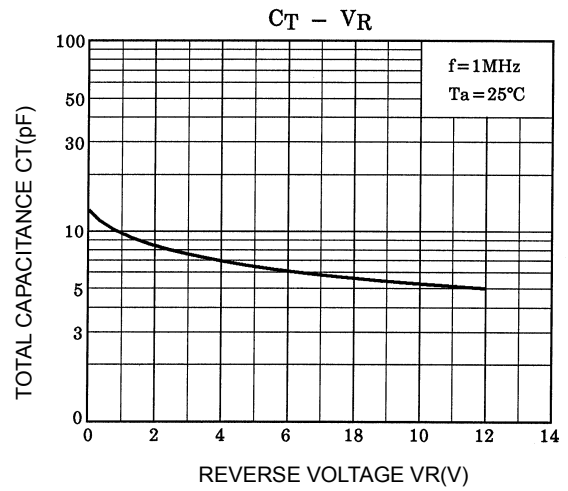
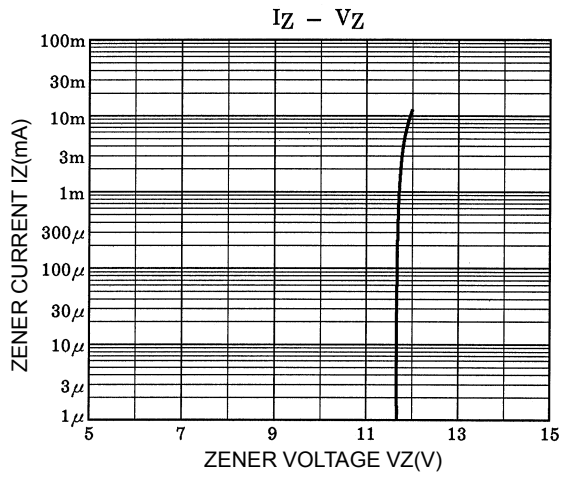
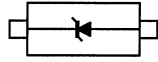
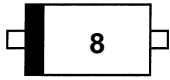
Guaranteed Level of ESD Immunity

Test Condition	ESD Immunity Level
IEC61000-4-2 (Contact discharge)	± 30 kV

Criterion: No damage to device elements

Marking

Equivalent Circuit (Top View)



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